

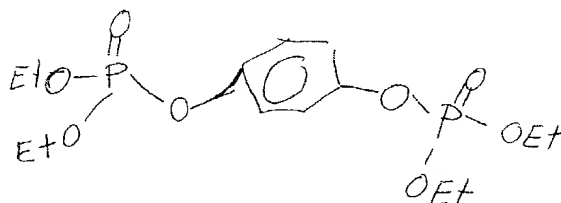
SEARCH REQUEST FORM

Requestor's Name: Chaney Serial Number: 09/879 633
 Date: 1/24/04 Phone: 2128 Art Unit: 1745
 21824

Search Topic:

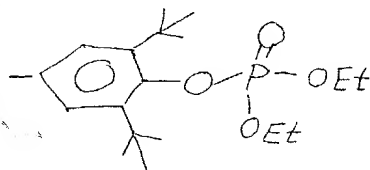
Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevant citations, authors keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevant claim(s).

Please search for the 2 compounds



benzene-1,4-bis-diethylphosphate

OR



diethyl (2,6-di-tert-butyl-4-methylphenyl) phosphate,
 -see attached- especially.

used as flame retardants in battery electrolytes

Chem Abstracts doesn't seem to use the names given ^{here} for the compounds.

STAFF USE ONLY

Date completed: <u>1/28/04</u>	Search Site	Vendors
Searcher: <u>Sherran</u>	<input type="checkbox"/> STIC	<input type="checkbox"/> IG Suite
Terminal time: _____	<input type="checkbox"/> CM-1	<input type="checkbox"/> STN
Elapsed time: _____	<input type="checkbox"/> Pre-S	<input type="checkbox"/> Dialog
CPU time: _____	Type of Search	<input type="checkbox"/> APS
Total time: _____	<input type="checkbox"/> N.A. Sequence	<input type="checkbox"/> Geninfo
Number of Searches: _____	<input type="checkbox"/> A.A. Sequence	<input type="checkbox"/> SDC
Number of Databases: _____	<input type="checkbox"/> Structure	<input type="checkbox"/> DARC/Questel
	<input type="checkbox"/> Bibliographic	<input type="checkbox"/> Other



STIC Search Report

Biotech-Chem Library

STIC Database Tracking Number: 112899

TO: Carol Chaney

Location:

Art Unit: 1745

January 28, 2004

*Rem
6 C 81*

Case Serial Number: 09/879633

From: P. Sheppard

Location: Remsen Building

Phone: (571) 272-2529

sheppard@uspto.gov

Search Notes

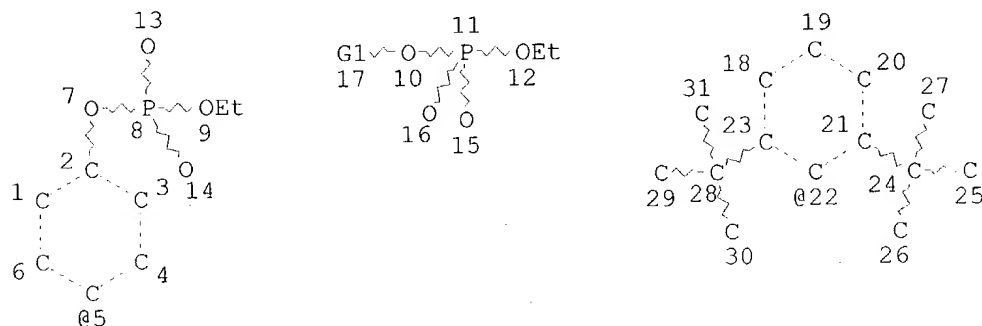
=> fil hcaplus
 FILE 'HCAPLUS' ENTERED AT 12:29:04 ON 28 JAN 2004
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FILE COVERS 1907 - 28 Jan 2004 VOL 140 ISS 5
 FILE LAST UPDATED: 27 Jan 2004 (20040127/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

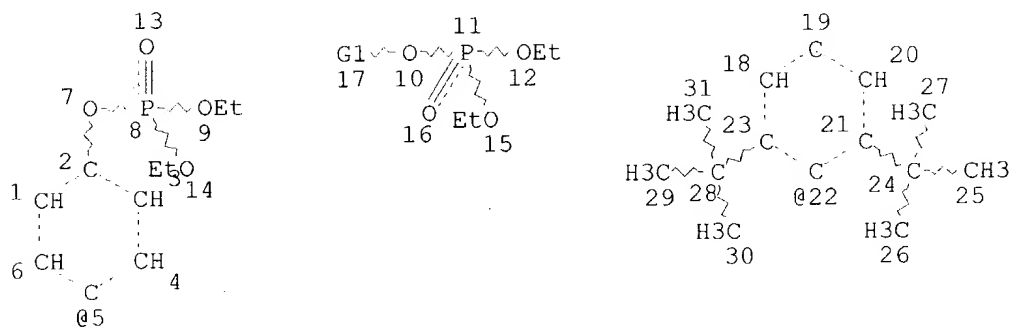
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 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
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 NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE
 L5 14 SEA FILE=REGISTRY SSS FUL L3
 L11 STR



VAR G1=5/22

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DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RSPEC I

NUMBER OF NODES IS 31

STEREO ATTRIBUTES: NONE

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L13 11 SEA FILE=HCAPLUS ABB=ON PLU=ON L12

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L13 ANSWER 1 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2003:792234 HCAPLUS

DOCUMENT NUMBER: 140:42905

TITLE: Selective phosphorylation of hydroxyphenols for forming reactive flame retardants

AUTHOR(S): Toldy, A.; Anna, P.; Marosi, Gy.; Keglevich, Gy.; Almeras, X.; Le Bras, M.

CORPORATE SOURCE: Department of Organic Chemical Technology, Budapest University of Technology and Economics, Budapest, 1521, Hung.

SOURCE: Polymer Degradation and Stability (2003), 82(2), 317-323

CODEN: PDSTDW; ISSN: 0141-3910

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Monophosphorylated hydroxy phenols were synthesized in a selective way and incorporated in different percentages into epoxy resins as reactive flame retardants. The LOI values of the epoxy resin samples could be increased this way up to 28%. The DSC results show that by increasing the percentage of incorporated monophosphorylated hydroquinone (HMP), the exothermic effect of the curing is decreased, which implies lower network d. An optimum balance is necessary between the flame retardant effect, detd. by percentage of HMP, and the lower degree of crosslinking.

IT 57246-14-7P

RL: SPN (Synthetic preparation); PREP (Preparation)

(diphosphorylated hydroquinone; selective phosphorylation of hydroxyphenols for forming reactive flame retardants)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 2 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2003:5302 HCAPLUS
 DOCUMENT NUMBER: 138:58934
 TITLE: Thermal runaway inhibitors for batteries
 INVENTOR(S): Mandal, Braja K.; Filler, Robert
 PATENT ASSIGNEE(S): USA
 SOURCE: U.S. Pat. Appl. Publ., 19 pp.
 CODEN: USXXCO
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2003003358	A1	20030102	US 2001-879633	20010612
PRIORITY APPLN. INFO.: OTHER SOURCE(S): MARPAT 138:58934			US 2001-879633	20010612 ✓

AB The present invention provides for a battery having an anode, a cathode, and a flame-retarding electrolyte with a cond. greater than about 10-3. S/cm at ambient temp. and which includes a compd. that chem. interferes with flame propagation. The compd. that comprises the thermal runaway inhibitor has the formula $Z(P:XOR1OR2)_m$ where R1 and R2 are substituted alkyl, substituted aryl or trialkylsilyl; X is O or S; Z is selected from a substituted amino, amido or imido moiety or a silane; and m = 1-4.

IT 57246-14-7P 479025-43-9P
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (thermal runaway inhibitors for batteries)

L13 ANSWER 3 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:266488 HCAPLUS
 DOCUMENT NUMBER: 137:79028
 TITLE: A study on the selective phosphorylation and phosphinylation of hydroxyphenols
 AUTHOR(S): Marosi, Gyorgy; Toldy, Andrea; Parlagh, Gyula; Nagy, Zoltan; Ludanyi, Krisztina; Anna, Peter; Keglevich, Gyorgy
 CORPORATE SOURCE: Department of Organic Chemical Technology, Budapest University of Technology and Economics, Budapest, 1521, Hung.
 SOURCE: Heteroatom Chemistry (2002), 13(2), 126-130
 CODEN: HETCE8; ISSN: 1042-7163
 PUBLISHER: John Wiley & Sons, Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 137:79028

AB By choice of appropriate reaction conditions, the phosphorylation of hydroquinone by di-Et chlorophosphate gave predominantly the monophosphate, $HOC_6H_4OP(O)(OEt)_2$ -4. A similar reaction of phloroglucinol [1,3,5-C₆H₃(OH)₃] led to the mixt. of the possible products (mono-, di- and triphosphates 6, 7, and 8). The monophosphinylation of the above hydroxyphenols by diphenylphosphinyl chloride could be accomplished with a good selectivity to give product 4 or 9, the yields, however, being variable.

IT 57246-14-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)

REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L13 ANSWER 4 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:159173 HCAPLUS
 DOCUMENT NUMBER: 136:340767
 TITLE: Phenols as Starting Materials for the Synthesis of Arylstannanes via SRN1
 AUTHOR(S): Chopa, Alicia B.; Lockhart, Maria T.; Dorn, Viviana B.
 CORPORATE SOURCE: INIQO, Departamento de Quimica e Ingenieria Quimica, Universidad Nacional del Sur, Bahia Blanca, 8000, Argent.
 SOURCE: Organometallics (2002), 21(7), 1425-1429
 CODEN: ORGND7; ISSN: 0276-7333
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 136:340767
 AB Phenols are converted into aryl di-Et phosphate esters (ArDEP), which on reaction with sodium trimethylstannide (1) or sodium triphenylstannide (2) in liq. ammonia afford arylstannanes by the SRN1 mechanism. Thus, the photostimulated reaction of phenylDEP (3), (4-methoxyphenyl)DEP (4), (4-biphenyl)DEP (5), (1-naphthyl)DEP (6), (2-naphthyl)DEP (7), and 2-(34), 3- (32), and (4-pyridyl)DEP (35) with 1 leads to monostannylated product in fair to excellent yields (20-98%). Also, substrates contg. two or three leaving groups react with 1 under irradiation, affording the corresponding di- or trisannylated aryl compds. With tetra-Et m-phenylene bisphosphate (15), tetra-Et p-phenylene bisphosphate (21), (4-chlorophenyl)DEP (22), and 1,3,5-tris(diethylphospho)benzene (30), the di- or trisubstitution products 1,3-bis(trimethylstannyl)benzene (19) (79%), 1,4-bis(trimethylstannyl)benzene (23) (95 and 97%), and 1,3,5-tris(trimethylstannyl)benzene (31) (57%) are obtained, resp. Also, the reaction of 6 and 7 with 2 leads to substitution products in quant. yields, and the reaction of 21, 22, and (4-bromophenyl)DEP (24) with 2 affords 1,4-bis(triphenylstannyl)benzene (38) in high yields (70-100%). On the other hand, the results obtained in the photostimulated reaction of 24 and (4-iodophenyl)DEP (25) with 1, as well as in the reaction of 25 with 2, clearly indicate a fast HME reaction.
 IT 57246-14-7
 RL: RCT (Reactant); RACT (Reactant or reagent) (photochem. stannylation of)
 REFERENCE COUNT: 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

2. L13 ANSWER 5 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 2002:85992 HCAPLUS
 DOCUMENT NUMBER: 136:385894
 TITLE: Approaches to the anodic generation of quinodimethanes
 AUTHOR(S): Scholten, C.; Kuljanac, E.; Steckhan, E.; Utley, J. H. P.
 CORPORATE SOURCE: Department of Chemistry, Queen Mary and Westfield College (University of London), London, E1 4NS, UK
 SOURCE: Proceedings - Electrochemical Society (2001), 2001-14(Reactive Intermediates in Organic and Biological Electrochemistry), 73-76
 CODEN: PESODO; ISSN: 0161-6374
 PUBLISHER: Electrochemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 136:385894
 AB Bis(carboxymethyl)arenes, i.e., anthracene-9,10-diylldiacetic acid and 1,4-dimethoxyphenylene-2,3-diacetic acid, and bis(trimethylsilylmethyl)arenes, i.e., 1,4-bis(trimethylsilylmethyl)benzene and 1,2-bis(trimethylsilylmethyl)benzene, were synthesized in moderate to good yields. In principle, bis(carboxymethyl)arenes are precursors for an anodic route to quinodimethanes via pseudo-Kolbe electrolysis.

Bis(trimethylsilylmethyl)arenes can, in principle, also be oxidatively cleaved to form quinodimethanes. We find that only products of reactions with nucleophilic solvents could be isolated, and we conclude that this potential anodic route to polymers or Diels-Alder adducts is impracticable.

IT 57246-14-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(approaches to anodic generation of quinodimethanes)

REFERENCE COUNT: 11 THERE ARE 11 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

✓ L13 ANSWER 6 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2000:321770 HCAPLUS

DOCUMENT NUMBER: 133:43593

TITLE: Two-Step Synthesis of Arylstannanes from Phenols

AUTHOR(S): Chopa, Alicia B.; Lockhart, Maria T.; Silbestri, Gustavo

CORPORATE SOURCE: INIQC Departamento de Quimica e Ingenieria Quimica, Universidad Nacional del Sur, Bahia Blanca, 8000, Argent.

SOURCE: Organometallics (2000), 19(12), 2249-2250

CODEN: ORGND7; ISSN: 0276-7333

PUBLISHER: American Chemical Society

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:43593

AB Phenols are converted into aryl di-Et phosphates, which on reaction with alkali-metal triorganostannides in liq. NH₃ afford arylstannanes in excellent yield. Thus, ROP(O)(OEt)₂ was treated with R₁SnNa in NH₃ to give 70-100% RSnR₁3 (R = 1-, 2-naphthyl, 4-BrC₆H₅, R₁ = Ph; R = p-anisyl, 1-naphthyl, 4-ClC₆H₅, R₁ = Me). Similarly prepd. were 100% 1,4-(Ph₃Sn)₂C₆H₄ and 95% 1,4-(Me₃Sn)₂C₆H₄.

IT 57246-14-7, Tetraethyl 1,4-phenylene diphosphate

RL: RCT (Reactant); RACT (Reactant or reagent)

(two-step synthesis of arylstannanes from phenols)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

✓ L13 ANSWER 7 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:680082 HCAPLUS

DOCUMENT NUMBER: 129:303218

TITLE: Synthesis of condensed phosphates as flame retardant for polymers

AUTHOR(S): Wang, Xiaomei; Yang, Ping; Wang, Xikui; Zhu, Jiahou; Xiong, Wen

CORPORATE SOURCE: Department of Applied Chemistry, Shandong Institute of Building Materials, Jinan, 250022, Peop. Rep. China

SOURCE: Shandong Jiancai Xueyuan Xuebao (1998), 12(1), 25-27

CODEN: SJAXEU; ISSN: 1002-3046

PUBLISHER: Shandong Jiancai Xueyuan Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

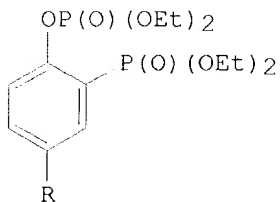
AB Twelve title compds. were synthesized using PCl₃, in a C₁₆H₃₃NMe₃Br catalytic solid-liq. phase transfer reaction in CCl₄, and POCl₃ as starting materials, resp. The properties of the compds. as flame retardants for epoxy were studied. Exptl. results showed that the higher the content of P in the compds. the better the effect of flame retardance.

IT 57246-14-7P

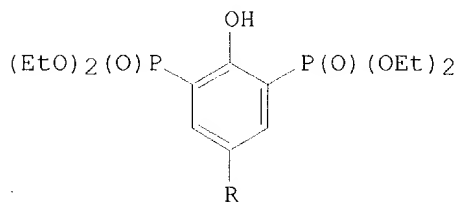
RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(synthesis of condensed phosphates as flame retardant for polymers)

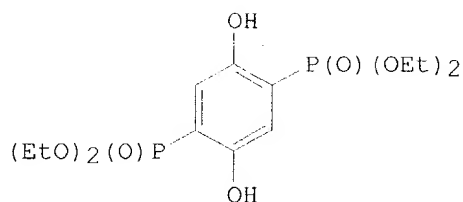
L13 ANSWER 8 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1984:571359 HCAPLUS
 DOCUMENT NUMBER: 101:171359
 TITLE: o-Hydroxyaryl diphosphonic acids
 AUTHOR(S): Dhawan, Balram; Redmore, Derek
 CORPORATE SOURCE: Petrolite Corp., St. Louis, MO, 63119, USA
 SOURCE: Journal of Organic Chemistry (1984), 49(21), 4018-21
 CODEN: JOCEAH; ISSN: 0022-3263
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 OTHER SOURCE(S): CASREACT 101:171359
 GI



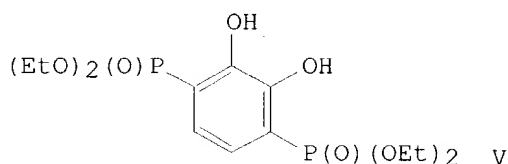
II



III



IV



V

AB p-RC₆H₄OP(O)(OEt)₂ (R = H, OMe) rearranged with LiN(CHMe₂)₂ to give 5,2-R(HO)C₆H₃P(O)(OEt)₂ (I; same R). Treating I with HOP(O)(OEt)₂ in the presence of Et₃N gave the phosphate II. Treating II with LiN(CHMe₂)₂ gave the hydroxy-substituted bisphosphonates III. Similarly, IV and V were prepd. from hydroquinone and pyrocatechol. Treating III-V with Me₃SiCl and NaI in MeCN yielded trimethylsilyl phosphonate ester transesterification products that readily undergo hydrolysis to the corresponding phosphonic acids on contact with H₂O at room temp.

IT **57246-14-7P**

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
 (prepn. and rearrangement of, in presence of lithium diisopropylamide)

L13 ANSWER 9 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN
 ACCESSION NUMBER: 1982:142410 HCAPLUS
 DOCUMENT NUMBER: 96:142410
 TITLE: Nickel-catalyzed cross-coupling of aryl phosphates with Grignard and organoaluminum reagents. Synthesis of alkyl-, alkenyl-, and arylbenzenes from phenols
 AUTHOR(S): Hayashi, Tamio; Katsuro, Yoshio; Okamoto, Yasuo; Kumada, Makoto

CORPORATE SOURCE: Dep. Synth. Chem., Kyoto Univ., Kyoto, 606, Japan
 SOURCE: Tetrahedron Letters (1981), 22(44), 4449-52
 CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal
 LANGUAGE: English

OTHER SOURCE(S): CASREACT 96:142410

AB ROP(O)(OEt)₂ [I; R = 1- and 2-C₁₀H₇ (= naphthyl), 4-R₁C₆H₄; R₁ = H, Ph, (EtO)₂P(O)O, MeO], prepd. from ROH by sequential treatment with NaH/THF and ClP(O)(OEt)₂, were converted into RR₂ (R₂ = alkyl, alkenyl, aryl) in high yields by cross-coupling with Grignard and organoaluminum reagents in the presence of Ni catalysts. E.g., I (R = 1-C₁₀H₇) was added to a mixt. of Ni(acac)₂ (acac = acetylacetonato) and Me₃SiCH₂MgCl in Et₂O; the mixt. was stirred at room temp. for 10 h, then hydrolyzed with dil. HCl to give 79% 1-C₁₀H₇CH₂SiMe₃.

IT **57246-14-7P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and cross-coupling reaction of, with Grignard and organoaluminum reagents, nickel-catalyzed)

L13 ANSWER 10 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1975:592819 HCAPLUS
 DOCUMENT NUMBER: 83:192819
 TITLE: Aromatic bisphosphates
 INVENTOR(S): Kobayashi, Etsuro; Kamagami, Saburo
 PATENT ASSIGNEE(S): Agency of Industrial Sciences and Technology, Japan
 SOURCE: Jpn. Kokai Tokkyo Koho, 3 pp.
 CODEN: JKXXAF

DOCUMENT TYPE: Patent
 LANGUAGE: Japanese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 50093949	A2	19750726	JP 1973-143645	19731224

PRIORITY APPLN. INFO.: JP 1973-143645 19731224

GI For diagram(s), see printed CA Issue.

AB Arom. diols are heated with 2 moles POCl₃ to give bis(phosphoryl chlorides) Y(OP(O)Cl)₂ (Y = arylene), which are treated with active H-contg. compds. HR (R = inorg. or org. residue), giving title bisphosphates Y[OP(O)R]₂. The products, e.g. I, are flame retardants. Thus, heating 34.2 g bisphenol A and 46 g POCl₃ at 140-330.degree. for 9 hr gave 67.9 g intermediate chloride, which (48 g) was refluxed with 75 ml MeOH for 4 hr to give I (R = OMe). Also prepd. were p-C₆H₄[OP(O)(OEt)₂]₂ and I (R = OEt, NH₂).

IT **57246-14-7P**
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of)

L13 ANSWER 11 OF 11 HCAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1957:43185 HCAPLUS
 DOCUMENT NUMBER: 51:43185
 ORIGINAL REFERENCE NO.: 51:8028a-g
 TITLE: Preparation of chlorides and esters of aryl phosphates. Catalytic effects in the reaction of phenols with phosphorus oxychloride

AUTHOR(S): Katyshkina, V. V.; Kraft, M. Ya.
 CORPORATE SOURCE: S. Ordzhonikidze All-Union Chem. Pharm. Research Inst., Moscow

SOURCE: Zhurnal Obshchei Khimii (1956), 26, 3060-6
 CODEN: ZOKHA4; ISSN: 0044-460X

DOCUMENT TYPE: Journal
 LANGUAGE: Unavailable

OTHER SOURCE(S): CASREACT 51:43185

AB While many phenols react very slowly or not at all with a large excess of POCl₃ owing to the necessarily low reflux temp. of such mixts. the addn. of salts of the alkali metals catalyzes the reaction very greatly, the degree of catalysis increasing with the at. no. of the alkali metal as well as with the acidic dissocn. const. of the specific phenol. The explanation of the catalysis is the possible equil. between such salts as NaCl and ArOH, in which ArONa and HCl are formed; owing to insoly. of HCl in refluxing POCl₃, the equil. would tend to shift toward formation of RONA which would instantly react with POCl₃. The catalytic effect in this reaction with a variety of phenols is shown graphically with salts such as BaCl₂, NaCl, KCl, RbCl, CsCl, and FeCl₃, which are arranged in ascending order of catalytic activity; ZnCl₂ and CoCl₂ also show such activity. Refluxing 94 g. PhOH and 96 ml. POCl₃ 10 hrs. gave 35.9 g. HCl, 168.3 g. PhOPOCl₂, and 21.3 g. crude (PhO)₂POCl. Refluxing 94 g. PhOH, 549 ml. POCl₃, and 5 g. KCl 10 hrs. gave 95.8% PhOPOCl₂, b₇ 106-7.5.degree.. While p-O₂NC₆H₄OH failed to react on refluxing with 6 moles POCl₃, addn. of 0.5 g. NaCl in 3.5 hrs. gave 99.9% evolution of HCl and distn. gave 88% p-O₂NC₆H₄OPOCl₂, b₂ 154-5.degree.. This (33.6 g.) was treated with cooling with 30 ml. dry EtOH, kept overnight, and distd. in vacuo after washing with H₂O and NaOAc and extn. with (CH₂Cl)₂, yielding 77% p-O₂NC₆H₄OPO(OEt)₂ (Fosfakol), b₁ 170-1.degree., d₂₀ 1.2782, n_{D20} 1.5080; the yield was 70% if undistd. dichloride is used. The following ROPOCl₂ are prepd. similarly [R (catalyst), yield, b.p., (yield, b.p., d₂₀, n_{D20} of di-Et ester) given]: o-MeC₆H₄ (NaCl), 91%, b₈ 118.degree. (52%, b_{1.5} 119.degree., 1.1313, 1.4812); p-iso-PrC₆H₄ (NaCl), 88.5%, b₁₁ 145-6.degree. (83%, b₁₀ 174.5-5.5.degree., 1.0852, 1.4770); p-Me₂EtCC₆H₄ (KCl), 89.3%, b₁₁ 155-9.degree. (76.1%, b_{0.5} 144-6.degree., 1.0640, 1.4838); p-C₇H₁₅C₆H₄ (KCl), 84.8%, b_{1.5} 167-9.degree. (71.8%, b₂ 178-9.degree., 1.0328, 1.4761); p-Me₂BuCC₆H₄ (KCl), 86.5%, b_{0.5} 123-5.degree. (79.8%, b₁ 164-7.degree., 1.1380, 1.4812); p-C₉H₁₉C₆H₄ (KCl), 89%, b_{0.5} 167.degree. (77.6%, b₁ 181.5-4.degree., 1.0125, 1.4765); p-C₁₂H₂₅C₆H₄ (KCl), 80.7%, b₁ 204-8.degree. (78%, b_{0.5} 204-7.degree., 0.9673, 1.4750); o-MeOC₆H₄ (FeCl₃), 89%, b₂ 120.degree. (75.3%, b_{1.5} 144.degree., 1.1872, 1.4972); m-MeOC₆H₄ (KCl), 89.2%, b_{1.5} 123-4.degree. (76%, b_{1.5} 154-6.degree., 1.1750, 1.4874); p-MeOC₆H₄ (NaCl), 88.3%, b_{1.5} 118-20.degree. (55%, b₁ 148.degree. 1.1757, 1.4865); o-O₂NC₆H₄ (KCl), 83%, b₁ 138-9.degree. (76%, b₁ 158-60.degree. 1.2761, 1.4979); m-O₂NC₆H₄ (NaCl), 87%, b₁ 144.degree. (72%, b_{0.5} 155-8.degree. 1.2745, 1.4991); p-O₂NC₆H₄ (NaCl), 88.1%, b₁ 144.degree. (77%, b₁ 170-1.degree., 1.2782, 1.5080); 2,4-Me(O₂N)₂C₆H₃ (NaCl), 90.1%, - (73.4%, b_{0.5} 164-6.degree. 1.2516, 1.5102); 2,4-MeO(O₂N)₂C₆H₃ (NaCl), 88.2%, b₂ 169-71.degree. (65%, b₁ 187.degree. 1.2950, 1.5141); 1-C₁₀H₇ (KCl), 85%, b_{0.5} 138-40.degree. (71.9%, b_{0.5} 151-4.degree., -, 1.5245); 2-C₁₀H₇ (KCl), 84.6%, b₁ 155-6.degree. (72.0%, b₁ 170.degree., 1.1792, 1.5250); p-C₆H₄ (KCl), 85.6%, b₂₀ 212.degree. (73%, b₁ 184.degree., 1.2789, 1.4725); m-C₆H₄ (KCl), 53%, b₁ 157.degree.. The last 2 substances are bis-phosphoryl derivs. The p-alkylphenyl derivs. listed in the table above contain straight chain alkyl groups, being prepd. from the appropriate p-acylphenols by Clemmensen reduction.

IT 57246-14-7, Ethyl p-phenylene phosphate
(prepn. of)

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=> fil caold

FILE 'CAOLD' ENTERED AT 12:29:28 ON 28 JAN 2004

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FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

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=> s l12
L14          1 L12

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=> d all l14 1

L14 ANSWER 1 OF 1 CAOLD COPYRIGHT 2004 ACS on STN
AN CA51:8028a CAOLD
TI prepn. of chlorides and esters of aryl phosphates-catalytic effects in the
reaction of phenols with P oxychloride
AU Katyshkina, V. V.; Kraft, M. Ya.
IT 311-45-5 597-87-5 770-12-7 1089-14-1 6964-36-9 13538-32-4
13929-83-4 16462-76-3 16519-26-9 20464-67-9 20464-68-0 33650-14-5
33965-78-5 38135-34-1 38815-40-6 55231-78-2 57246-14-7
63228-12-6 67951-86-4 99981-34-7 101259-60-3 101571-78-2 101571-79-3
102944-78-5 109507-14-4 109507-15-5 109593-83-1 115308-11-7 117043-13-7
117043-15-9
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=> fil reg
FILE 'REGISTRY' ENTERED AT 12:29:39 ON 28 JAN 2004
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Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 27 JAN 2004 HIGHEST RN 642407-31-6
DICTIONARY FILE UPDATES: 27 JAN 2004 HIGHEST RN 642407-31-6

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at:

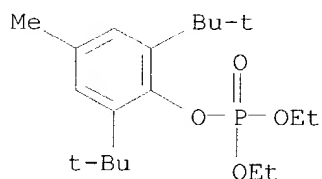
<http://www.cas.org/ONLINE/DBSS/registryss.html>

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L12 ANSWER 1 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 479025-43-9 REGISTRY
 CN Phosphoric acid, 2,6-bis(1,1-dimethylethyl)-4-methylphenyl diethyl ester
 (9CI) (CA INDEX NAME)
 FS 3D CONCORD
 MF C19 H33 O4 P
 SR CA
 LC STN Files: CA, CAPLUS, USPATFULL

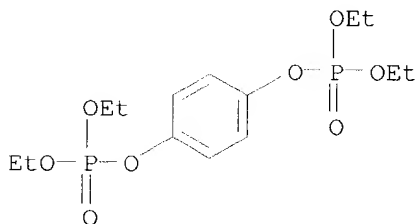


PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

REFERENCE 1: 138:58934

L12 ANSWER 2 OF 2 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 57246-14-7 REGISTRY
 CN Phosphoric acid, 1,4-phenylene tetraethyl ester (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Ethyl p-phenylene phosphate (6CI)
 OTHER NAMES:
 CN Tetraethyl 1,4-phenylene diphosphate
 FS 3D CONCORD
 MF C14 H24 O8 P2
 LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, USPATFULL
 (*File contains numerically searchable property data)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

11 REFERENCES IN FILE CA (1907 TO DATE)
 11 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 140:42905
REFERENCE 2: 138:58934
REFERENCE 3: 137:79028
REFERENCE 4: 136:385894
REFERENCE 5: 136:340767
REFERENCE 6: 133:43593
REFERENCE 7: 129:303218
REFERENCE 8: 101:171359
REFERENCE 9: 96:142410
REFERENCE 10: 83:192819